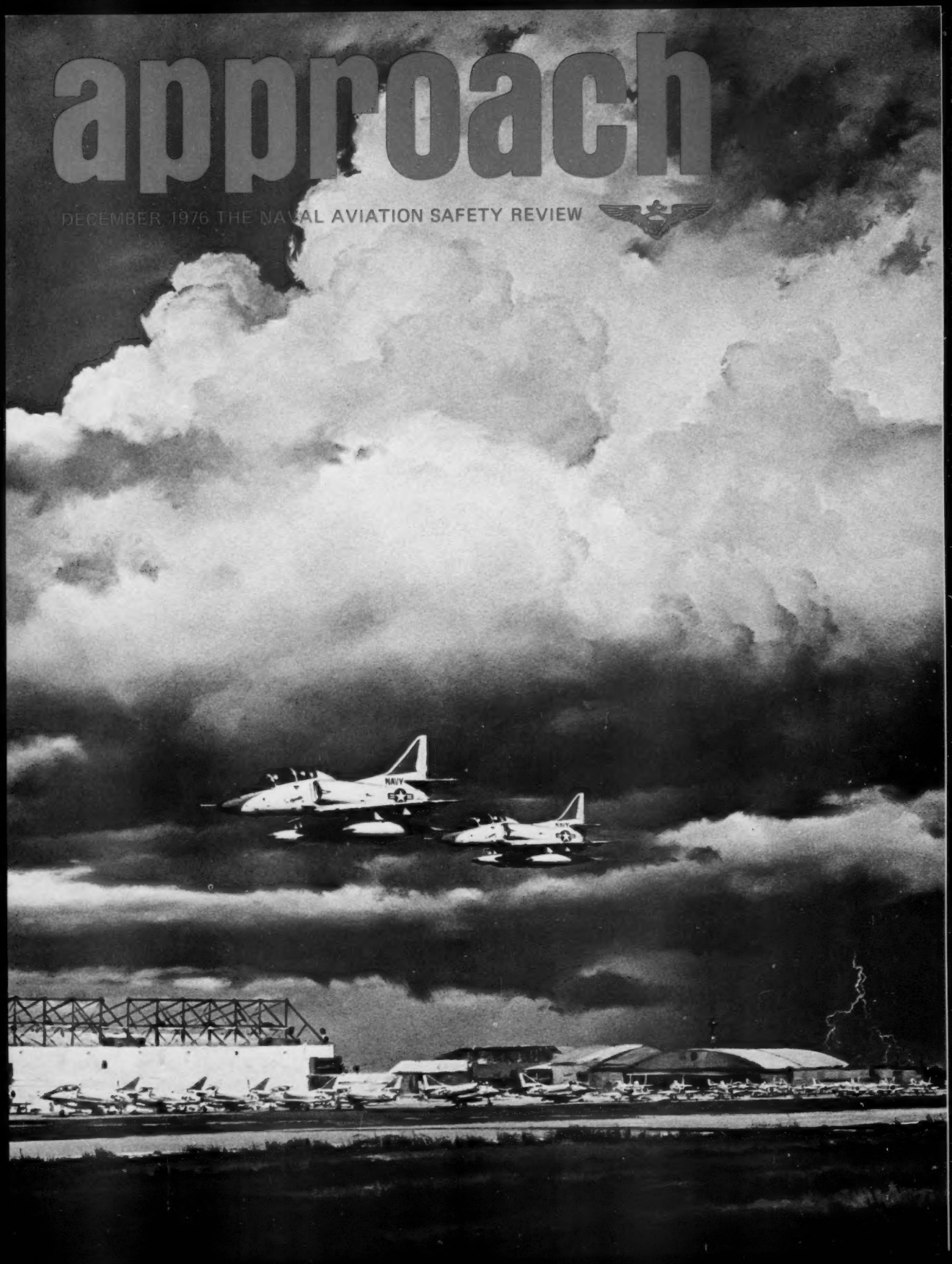
approach

DECEMBER 1976 THE NAVAL AVIATION SAFETY REVIEW

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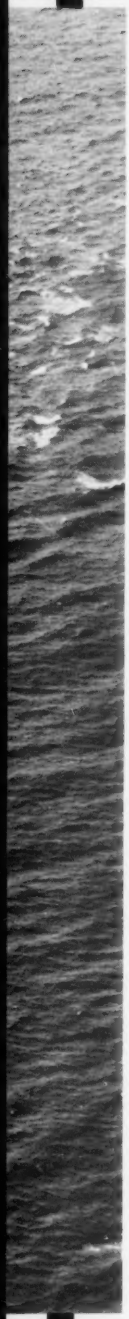

SPECIAL CARRIER AIR WING 3/ USS SARATOGA ISSUE

USS SARATOGA (CV 60) and its embarked air wing, CVW 3, have combined to produce a package of articles which makes up the majority of this issue. This APPROACH blitz was conducted in conjunction with the Summer '76 Safety Review by COMNAVAIRLANT for the purpose of bringing the best of discussion material into print, for wider dissemination.

In submitting the package, CV-60/CVW 3 included a wide variety of ship/squadron topics, representing all communities of carrier air. The result was a diversity of topics, aircraft types, and subjects typical of any edition of APPROACH.

SARATOGA/CVW 3 completed a 6-month Mediterranean deployment on 18 July 1976 with a safety record that shows they were doing more than just writing about safety. During the deployment, more than 18,000 flight hours were flown with only one major accident, for a rate of .55. This is well below the CNO All-Navy FY-76 rate of .65, which was an all-time, record-low rate. With nearly 10,000 accident-free landings logged by CVW 3 during the cruise and more than 12,000 logged during the competitive year, the performance of the wing while embarked and working with SARATOGA certainly rates with the best in the business.

The first article of the series is typical of teamwork and professionalism displayed by SARATOGA and CVW 3. On a dark, stormy night all ship's electrical power was lost at the onset of a recovery. One complete launch was airborne with no idea of when or if it could be recovered. WHAT NEXT?

MIDNIGHT MASS DIVERT

By LT John Stevenson
VAQ-131

THE readyroom television briefing proceeded routinely until the weather forecaster mentioned the possibility of significant thunderstorm activity in the vicinity of that night's carrier operations. The EA-6B crew took note of that development and discussed the inflight action necessary to avoid any trouble with bad weather. Little did they know that the weather would be a very hazardous complication to an anything-but-routine night carrier sortie.

The carrier was operating in the Western Mediterranean in its sixth month of deployment. Air wing crews were experienced and proficient in carrier flying. The pilot of the EA-6B had completed 99 prior landings during this deployment and was now launching for his 100th – "Centurion" – pass. He was scheduled to return to the States during the carrier's next inport period for a class at the Naval Safety Officer's School in Monterey. As this flight was his only opportunity for landing No. 100, he volunteered to go.

The flight deck was eerie (more than normal!) and slick; throughout preflight and launch, a swirling, misty rain settled in as the carrier steamed through the night. The EA-6B, SKYBOLT 605, and other scheduled aircraft made uneventful launches and departures. They were soon separated into their own elements and missions. The EA-6B skirted numerous thunderstorms during the flight, most of which were only visible by frail moonlight.

Checking into Marshal an hour and a half later, the aircrews found the approach radial offset at an angle to the final bearing to take advantage of a clear weather area for Marshal holding. SKYBOLT 605, No. 1 aircraft down the approach slot, commenced on time. At 12 miles and arcing, 605 was transferred to CCA approach frequency. Approach control established contact and noted that the ship was turning for a better wind aspect and gave a new final bearing. With this change, arcing would be extended to arrive at the new final bearing.

Suddenly, in midtransmission, all communications were lost with the carrier, and the ship's TACAN broke "lock." SKYBOLT 605 continued inbound, pending further instructions. At a clock-time 10-mile gate, the crew lowered

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the landing gear and descended to nonprecision approach minimums of 600 feet. The carrier deck lights were sighted at approximately 5 miles, and at the same time, the LSO reestablished two-way communications with 605 from the LSO platform. He confirmed that the ship had experienced a power failure. The LSO radio was operating on a secondary power source.

At 3 miles out, another aircraft was sighted almost abeam of 605 making a simultaneous approach. Intermittent communications did not give the LSO enough information as to which plane was which, so he waved both aircraft off. 605 commenced a left, 30-degree turn and climbed to 1200 to clear the way for the other aircraft to execute a normal waveoff.

Climbing past the carrier, 605's crew was startled when a shroud of darkness enveloped the ship as a complete power blackout took place. Realizing that a full emergency situation now existed, 605 cleared its airspace and commenced climbing in a VFR area to the squadron's assigned "maximum conserve" holding altitude. The airborne E-2 assumed control of the now confused recovery. All of the aircraft were vectored to clear weather areas at safe altitudes. F-4 tanking commenced, and all aircraft held their individual delta orbits pending further word from the E-2 on the ship's casualty situation.

Fifteen minutes later and with still no word, it was determined that the F-4s and 605 would not have enough fuel to effect a carrier recovery and still have bingo fuel available at the ramp. SKYBOLT 605 proceeded out the bingo radial to the primary divert field and soon F-4 205 joined up in formation. Communications with the E-2 controller and 205 were established on a common frequency, and the divert field tower frequency (the only UHF radio at the field) was dialed into the EA-6B's second radio.

Already on deck at the divert field, refueled and ready for takeoff with all the available fuel at the divert, was an S-3 that had bingoed earlier when the carrier had augered into a driving rainstorm. When the E-2 initially called the control tower with the divert alert (no approach control), the S-3 pilot shut down his aircraft and went to the tower to resolve language problems. New weather reports and field information were made available by the S-3 pilot, adding tension to the deteriorating situation. The ceiling had lowered to 1100 feet, and drizzle and rain had reduced visibility to 3 miles. The runway was wet with standing water, and there was no arresting or abort gear available. The wind was calm with Runway 07 the duty. Continued

Fifty miles from the foreign coastlines, EA-6B 605 and F-4 205 flew into an unseen cluster of thick clouds. Hail and rain reduced visibility to only a few feet. 605's crew did not turn on their white storm penetration lights due to the tight formation position of 205, who was trying to maintain visual contact. Suddenly, St. Elmo's fire glowed blue around the EA-6B forward windscreen, followed seconds later by a blinding flash and earsplitting boom, as a lightning bolt struck and passed through both aircraft. With concentration on the instruments as the flash blindness cleared, the pilots determined that all systems in both aircraft were still normal. The aircrews were unharmed, though a bit unnerved.

A few miles later, the planes exited the storm and could now see lights dotting the coastline. There were no available high or low approaches for the field that either aircraft had equipment for; therefore, even though fuel was critical, the aircraft descended to minimum safe listed altitude to visually acquire the runway. With information from a nearby TACAN, the planes commenced a 15-mile arc from west to south to clear depicted mountain ridges on final descent.

Anxious miles passed as the planes turned inbound to the field with low fuel lights on. Terrain orientation was extremely poor in the black night. Finally, 3 miles out, the runway VASI lights were sighted. Immediate permission to land was granted by the tower controller who also informed the crews that the runway was wet.

Landing any tactical Navy jet on 7200 feet of unfamiliar wet runway at night with no arresting gear available is a delicate matter, even more so with rock-hard carrier air pressures in the tires. 205's crew gave the EA-6B the straight-in landing attempt and proceeded to take the F-4 around through a night VFR pattern. 605 quickly completed landing checks, including the long-unused field landing anti-skid and flaperon popup switches.

Touching down on the end of the runway, the crew discovered puddles of standing water, 4 and 5 inches deep, the length of the runway. There were no "distance remaining" markers on the edges. 605 came to a sliding halt with 500 feet remaining and quickly cleared the runway. 205 touched down and deployed his field drogue chute. The pilot used maximum effective braking on the slick runway but blew both main tires during the emergency braking.

Radio communications with the E-2 verified that the other two airborne F-4s were inbound and critical on fuel. This was relayed to 205, and he cautiously back-taxied on the torn tires to clear the airfield's only runway. The two F-4s appeared overhead and were given clearance to land. The S-3 pilot in the tower cautioned the *Phantom* pilots about the terrain, and 205 gave them an F-4 braking synopsis. They touched down separately, deployed chutes, and stopped without incident, barely short of the end.

Soon thereafter, two fuel short A-7s also proceeded to the divert airfield. Through relays to the E-2, they were given instructions by 605 on how to find the field safely and avoid the storms and mountains. A hard rain had begun to fall, and both A-7 pilots had difficulty maintaining visual contact with the end of the runway on final. After two low

unscheduled

THE scene took place on the flight deck of USS CARRIER prior to launch during ops in the Med. A call went to the readyroom that an F-4J crew waiting to man up still needed their PRC-90 survival radios. The SDO received the call and decided to personally deliver the radios which had just been given to him. He went by the line shack, but seeing no one available, he started up to the flight deck.

He paused momentarily in the catwalk and considered trying to get a flight deck cranial helmet and lifevest, but aircraft were already starting to turn up. He saw that the crew he was to give the radios to were only about 100 feet away and signaling him to hurry up. He opted to continue on his self-appointed mission.

The noise of turning engines was increasing, so with a PRC-90 in each hand and his thumbs in his ears, our junior officer started toward the F-4J. His intended path took him aft of an A-6E. Due to the confusion and noise, he failed to realize the port engine had already been started. As he passed behind the plane, the *Intruder* pilot added power to the port engine in preparation for starting the starboard engine. You can guess the rest. The jet blast caught the SDO and hurled him over the side. During his fall he struck a communications antenna and then landed flat on his back in the water. A helo preparing to launch immediately took off and proceeded to the scene. The victim remained conscious and was able to enter the rescue sling on his own.

On examination in sickbay he was found to have sustained a collapsed lung secondary to water impact and also to be suffering from exposure (sea water temp 57°F).

approaches, each in turn made successful landings. One A-7 blew two tires before the end of the rain-soaked runway. The airborne E-2 made a final radio transmission to 605, signaling that the carrier was now operating normally and the remaining aircraft airborne were recovering aboard.

The divert field had no JP grade jet fuel on hand, so the divert crews relaxed late that night in the small, military base office, dripping wet from rain and perspiration. All agreed that although 605's pilot missed his chance at Centurion, the flight had certainly been one to remember.

The toll on this night of massive flight hazards amounted to only four aircraft tires. A few days later, the diverted planes returned to the carrier, ready again for flight deck operations. Our professional Naval Air arm in the Mediterranean had proven again that it can successfully handle even the most hazardous flight conditions.

P.S. Many lessons can be learned by analysis of this "hairy" situation. Perhaps the most important is to underscore the necessity to thoroughly brief divert fields during carrier operations. Mere coverage of bearing, distance, and bingo fuel is not enough. Crews must be intimately familiar with field layout, surrounding terrain, approach facilities, etc. The field in this case had terrain of approximately 1400 feet just left of the landing runway this night, and any divert aircraft breaking left would probably have bought a (foreign) farm.

The second key point which can be derived from this story is the importance of maintaining *all* aircraft systems in an operative condition, even though these systems are not routinely used. The results of this divert could have been disastrous had the EA-6B's anti-skid braking or flaperon popup not worked, or if the F-4's drogue chutes had not blossomed.

So let us continue to salute this group of professional young naval aviators and naval flight officers who turned a potentially disastrous situation into merely a great story to tell their grandchildren. But let's not forget the equally professional airplane fixers back on the carrier who ensured those airplane systems functioned when the chips were down!

Finally, the teamwork of the well drilled ship/air wing team earned a recognition point in this incident that is worth noting. There was no confusion, hesitation, or difficulty in the E-2 taking control of the situation and getting alternatives in motion. When the power and lights went out, air ops moved to the flight deck and manned the back end of a turning E-2. This action, which maintained continuity and a steady flow of information and control to the airborne E-2, was a typical example of the flexibility and quick thinking that flows from a smooth performing team of pros.

When it was all over, the boss admiral messaged that this "hairy situation with a successful outcome" left him with "a sense of pride in the outstanding professionalism displayed" by the ship/air wing team. Professionalism and teamwork had turned a potential disaster into a deserved accolade. All's well that ends well. ◄

swim call

LT Pat Hutton, MC
Flight Surgeon
CVW-3

He made an uneventful recovery with the only lasting effect being the memory of this harrowing experience.

There are a couple of lessons to be learned from this tale. It is patently obvious, or should be, that a flight deck during ops is a very dangerous place. All of us have seen the signs "Beware – Jet Blast," but how often do we really stop to reflect on what the sign is trying to tell us? Let's pause occasionally to remind ourselves of the basic flight deck principle of avoiding props and intakes and exhausts. Often it is hard to tell exactly which plane is turning up, so it is well to be wary of them all.

The second lesson is a little more subtle. Flight deck personnel are accustomed to donning their flight deck gear at the call of "Flight Quarters," but the aviator normally goes up on the flight deck in flight gear in preparation for manning his aircraft. Since it is not in his habit pattern, it is easy to see how he might not consider the importance of donning a helmet and lifejacket, especially when all that's involved is a short time and a small distance. However, our intrepid aviator found it only took about 15 seconds and 30 feet to be taking an unscheduled "swim call." He was lucky to have escaped without more serious injury or death. It was a bright, sunny day with good visibility, the sea state was cold but calm, a helo was ready to launch, and he remained conscious. You might not be so fortunate if the same were to happen to you. So take all the necessary precautions the next time you go up to the "roof" for any reason. Wear the proper gear and take a moment to think about where you're going and what safe route you'll take to get there. ◄

THE SAGA OF THE HUMBLE HUMMER

No Guns, No Bombs, No Missiles . . . but not NO SWEAT!

By LT Cam Place, ASO
VAW-123

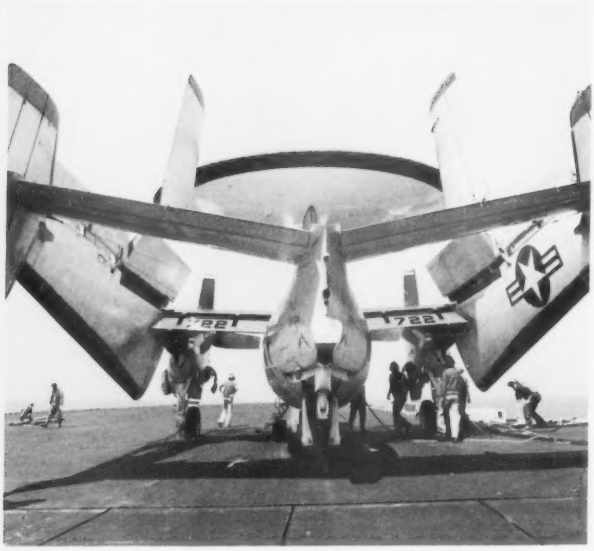
HAVE you ever escorted a visitor around the ship? Each one of them will spot the E-2 and always ask the same question: "What's that big thing on top?" "Uh, that's a radar antenna or something like that." Then you move them quickly on to the real airplanes; the ones with the swept wings, bomb and missile racks, and the gaping intakes and scorched exhausts.

On a flight deck full of sleek jets, it's easy to forget about a living fossil with props and a sunshade. Compared to the glamour of the fighters and attack aircraft, no one is going to stand slack-jawed in awe about 5 tons of transistors and copper wiring. The aircraft "don't get no respect"; it's the Rodney Dangerfield of the flight deck. And therein lies the problem. It's a unique aircraft which presents some unusual dangers, especially to the uninformed and disrespectful.

You've probably heard of someone being sucked into the intake of a jet and living to tell about it. There are a few people around in that fortunate group. I know of only one person who tangled with the prop of an E-2 and lived, and then only because medical assistance was immediately available. To be struck by the prop of an E-2, even during the starting cycle, would almost certainly be fatal.

The prop is the single, most dangerous aspect of aircraft to flight deck personnel. The whole frontal area of the prop disc takes up 35½ feet of deck space. There's no engine intake in the world that big. The unique aspect of the E-2 prop is that at ground idle power (which is generally the power setting while the aircraft is on the deck), there's almost no propwash; no warning to the inattentive that they are about to step into the hereafter (as they cut behind the island through the *Hummer* hole to get out on the flight deck).

It's practically impossible to avoid going through the prop arc of the *Hummer* at some time or other. It just takes up too much room. Does a bell go off in your head when you're about to walk through it? Do you check to see if the



prop is turning? (If that sounds dumb, read on.) Do you check to see if a huffer hose is connected to the engine? These are considerations that one must constantly think about when working around E-2s. If you think that nobody would walk through a turning prop, talk to my line chief about the day (bright and sunny) he grabbed *TWO* ordnance types as they were about to push a cart full of live Sidewinders through the turning prop of my plane.

How could something like that happen? More than likely, it was the result of an ingrained habit pattern built up through uncounted, mindless violations of the prop arc. Flight deck personnel must also realize that once the huffer hose is connected to the engine, it's just like the safety pins have been pulled on the missiles and bombs of the "dangerous" aircraft. There is nothing the pilot can do in the cockpit to prevent the props from turning. The flick of a switch on the tractor, and the props will start to spin. If the absence of a huffer hose isn't something you check every single time you have to go through an E-2 prop arc, then the day will eventually come when you'll get a surprise lasting a lifetime.

Once the engines are turning, the next danger is blatantly obvious. NOISE! For such a humble aircraft, it makes an unbelievable racket. Each prop is putting out 115 decibels, up to 40 feet away, at ground idle power. (Remember? That's the normal power setting while on the deck.) The noise level decreases to 110 db at distances of 80 feet away and drops off to a mere 105 db up to 130 feet away. Exposure for several minutes, without protection, could result in a permanent loss of hearing acuity.

Strangely enough (almost everything about the airplane is), as the power is increased, the noise level goes down. The problem with that is the propwash, and thermal danger areas behind the aircraft are increased. There is no comparison between an F-4 in afterburner and an E-2 at high power on the catapult. The flame and those shrieking engines of the F-4 are really impressive. No sane person would get anywhere near the backend of that F-4, but the E-2? It has no flames, very little noise, and a funny looking tail that's trying to shake itself off.

Those props extend just a bit beyond even the F-14 JBDs. Toss in a couple of flight deck personnel that think they can make it from the checker's box to the area behind the JBD, so they can get off the flight deck a few seconds early for a cigarette and a cup of coffee. The result is invariably a couple of people, helmets, and goggles being blown down the deck, under aircraft, near intakes, or through the props of another E-2. Some people have no respect for something that doesn't have a lot of flames and smoke and noise. The prop blast of an E-2 is an invisible source of danger that needs to be respected, perhaps more so than even the afterburners of the fearsome fighters.

At least once it's airborne the only danger from this unarmed, sitting duck is if it tries to run into you, right? It just goes back and forth on station for hours, straight and level and slow. It's a great setup for a couple of quick intercepts, and it's a lot of fun trying to jump the *Hummer* before it knows you're coming. If that's your thinking, then here's a couple more tidbits of information to keep in mind. The radiation hazard from the *Hummer* radar requires personnel to maintain a minimum distance of 170 feet. If you should happen to be carrying ordnance, the minimum distance required is 1500 feet.

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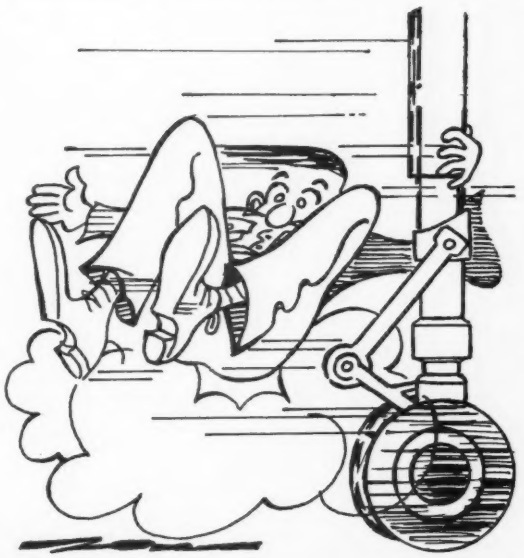
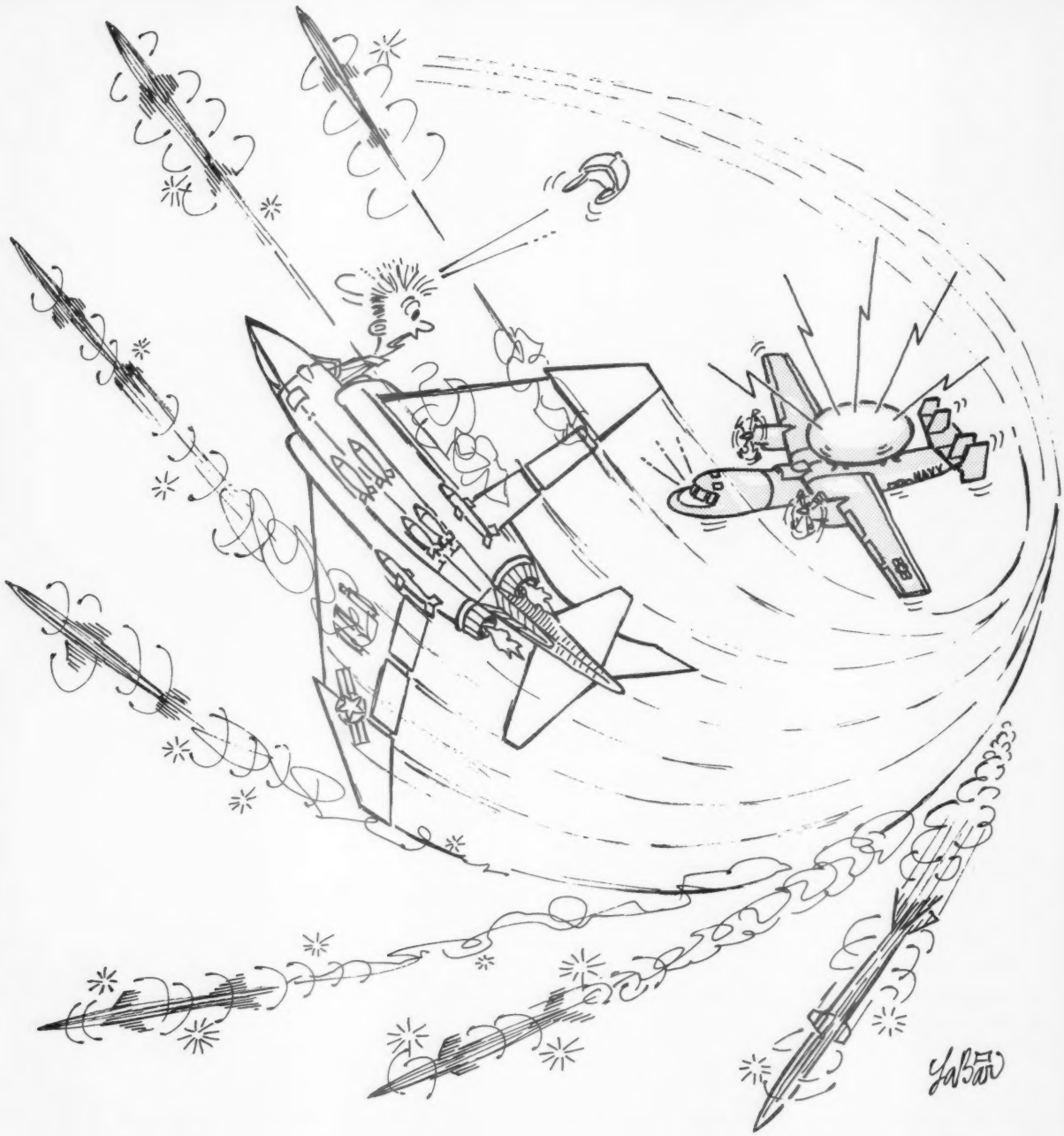




So when you decide to join up on the *Hummer*, call for an invitation and let us shut down the radar or stay outside the radiation envelope. Those missiles or flares you're carrying could make for an airshow more spectacular than you had in mind. And if for some reason you should ever join on the *Hummer*, you may run across a 5-pound, orange hunk of FOD known as the trailing wire antenna drogue. It could be hanging as far as 150 feet behind the tail.

That's about it. No guns, no bombs, and no missiles, but if it's not treated with the proper respect for its unique dangers, the *Humble Hummer* can be just as deadly as the fastest, sleekest, most heavily armed jet in the Fleet. ◄

Birdfarm, where are you?

THE crew of an SH-3D was flying a routine ASW training flight one very hazy day. The quiet, business-like atmosphere was interrupted when they were vectored 310/41 to a surface combatant to pick up a passenger. Fuel onboard was good for 1.3 hours.

They arrived overhead the combatant at 1450 with fuel for an hour. Despite all attempts to communicate, they were unable to make contact with the ship. Consequently, they departed at 1500 to return to their carrier without HIFR (helicopter inflight refueling) or passenger.

The HAC advised the carrier of his fuel state and was vectored 135/32, but he understood it as 115/32 which coincided with their DR plot. At 1513 the helo crew received an update vector to 110/15 and a frequency shift to Marshal control. At 1524 the HAC reported a fuel state of 20 minutes. He was told an IFF contact showed them 050/25. The HAC said, "No way." The contact was then changed to 330/28. The HAC agreed.

At 1527 a steer of 110/15 was given. Six minutes later the HAC was advised that a positive IFF ID placed them 080/36 and they were vectored 260. The ship's TACAN was radiated at that time, and the HAC reported a confirming TACAN bearing of 070/33 at 1535. He was given a "charlie" and the big carrier turned to close his position.

About 1547 the helo's No. 2 engine flamed out. The pilot descended to 100 feet, jettisoned some gear, and prepared for a water landing. Visual contact with the carrier was then made. It was 6 miles away, and the HAC determined he had enough fuel to reach the ship.

A routine but tense landing aboard was completed at 1552. C-L-O-S-E! As readers may suspect, the ship was observing EMCON, a couple of vectors were based on a false (ring-around) target. The targets were identified by the SPN-43. The helo crew should have questioned their relative position with the ship at 1520, and again in earnest at 1525 when the controller gave them a position of 050/25. Had the TACAN been activated at that time, the helo would have been recovered with 10 minutes fuel remaining, instead of just fumes. The quick response of the carrier to close the helicopter meant the difference between a routine recovery and a splash.

With a dire situation such as this facing the pilots, a deliberate single-engine as spelled out in Section V of the "bible" might have been a good idea. Also, UHF-DF would have helped. – Ed.

THE AIR WING DUTY

An Innovation for Increased Safety Awareness

THE concept of designating an air wing safety officer of the day during embarked air operations was revived during the SARATOGA/Carrier Air Wing THREE 1974-75 Med cruise. It can be traced to attempts to increase our safety posture by having a trained troubleshooter on hand, highly visible, and dedicated to detection and correction of safety deficiencies.

From this watch came the inevitable report, but this report was different (see example). Instead of meandering through the complicated substructure of divisions and departments, getting chopped and rechopped (and lost, as reports often do), this report was prepared on a ditto mat by the daily safety officer's own yeoman (or by his friendly admin department if he had no yeoman). It was hand-carried to the CAG office for distribution, and then delivered directly to the ship's CO with copies to the other departments and divisions listed on the distribution.

The air wing safety officer of the day and his report have evolved into one of the most useful indicators of the ship's safety posture. This maturation process was not without growing pains, but the result is that the air wing safety officer of the day has become an accepted and valued member of the team. All personnel are aware that he is there to assist where he can, and his report provides the visibility necessary to get important things done.

Early Problems. The major problem that arose early in the program was one of attitude. Since the watch was stood by air wing squadron safety officers, the common belief among our shipboard brethren was that we were trying to put them on report to make ourselves look better. This was never the intent of the system, and in informal conversations with our air department contemporaries, we tried to make this understood.

Much to our amazement, we discovered that there were two sides to the coin, and our shipboard contemporaries began to seek us out as a ready listener to their tales of woe about air wing misdeeds. The upshot of this is that we now have a lively and close rapport between all concerned, working together for the common benefit of increased operational effectiveness through safety.

The other early difficulty involved the recording of all discrepancies in the report without notifying divisions concerned that the discrepancies existed. This led to some weeping and gnashing of teeth at the middle management level when the phone calls began arriving from the captain. This situation has been rectified, and the procedure now is to immediately inform the division concerned and request the discrepancy be corrected.

Lessons Learned. The most valuable lesson learned from the appointment of an air wing duty safety officer is that the safety effort has been enhanced. Although not every discrepancy uncovered has been corrected, a positive attitude at all levels has prevailed, safety awareness has greatly increased, and a marked decrease in material deficiencies and personnel mistakes has occurred. Another valuable lesson learned is that recognition of improvement and/or jobs well done gives the report balance and shows people that their labors have been appreciated. Too often safety efforts have accentuated the negative while neglecting the positive.

A side benefit is that the individual approaches of 10 squadron safety officers to the task at hand have provided a greater insight into their particular areas of expertise. We have learned about aircraft idiosyncrasies (especially helos and *Hummers*) because of the involvement of their safety officers in our education. We have taken varying technical backgrounds and different approaches to a problem and used them for our mutual benefit. Although primarily concerned with the aviation side of the house, the air wing duty safety officer also identifies material discrepancies affecting all hands (inoperable battle lanterns, loose ladder chains, etc.) and thus helps make things a little better for everyone.

The introduction of an air wing duty safety officer into the operational environment is not the final solution to all safety problems. Certainly he can play an important part in detecting and identifying problem areas, but he must be an addition-to and not an instead-of member of the regular shipboard safety team. He can only be as effective as the cooperation he receives, and on our ship the cooperation has been outstanding. The air wing duty safety officer concept has paid dividends for us, and it could do the same for you.

Why not give it a try? ◄

SAFETY OFFICER

By LCDR L. G. Mullin, Jr.
VA-75

MEMORANDUM

From: CVW-3 Safety Duty Officer of the Day
To: Commanding Officer, USS SARATOGA (CV 60)

Subj: Safety Report for 30 May 1976

1. Today's flight ops were conducted smoothly and safely. The flight deck crew looked good (as usual) and worked hard to meet the demands of the schedule. One oldtimer on the roof let his guard down for a minute and got blown along the deck awhile. He will be sore for a few days, but that's about all. The name of the game must always be "Head's Up Ball."

2. Flightcrews should review Case I low visibility voice calls. The boss can help only if he knows you are there.

3. Maintenance control officers should ensure their shops review basic maintenance safety precautions. Numerous aircraft on the hangar deck had power cables connected, but no one around (one of these was on jacks). The air wing maintenance chief was notified, and the situation was rectified.

4. Tonight during the last recovery, the man-of-the-hour appeared in the port catwalk by the lens. Apparently looking for a shower, he was dressed in a towel and not impressed by the aircraft on final.

5. Pri-fly watches are important. Squadrons must ensure that knowledgeable people are assigned and get there on time.

6. During 1300 launch, I observed tractor T-14 with driver proceeding up the deck at excessive speed (with huffer running). He surprised a few folks with his huffer exhaust and almost got himself a CPO. A little "leadership" is required to straighten his case.

7. Kudos – To the Engineers – For the wind.
To the afterburner checker on Cat 2 during event 1 – Good save, the thumbs up that became a thumbs down when a burner blew out saved lots of grief and aggravation.

Very respectfully,

I. M. Safer
LCDR USN

Distribution:
XO, CV-60
COMCVW-3
Operations Officer (CV-60)
Safety Officer (CV-60)
Air Officer
Squadron COs (2)
Department Heads

The VIKING

THE S-3A has recently returned with VS-22 and USS SARATOGA from its second deployment to the Mediterranean. The integration of the *Viking* into the CV environment requires extensive cooperation between the ship and the squadron. Former pilots of the mighty *Stoof* have had to adapt to the pace of the CV and adjust to some of the ways of the TACAIR community. In addition, the ship has had to learn to integrate an aircraft which comes aboard at 105 knots into the faster atmosphere of the older jet aircraft.

As the pilot ascends the flight deck, he realizes that the *Viking* has several advantages. His APU (auxiliary power unit) provides him the ability to start engines without having to wait in line for a huffer. The poststart checks are relatively simple, although some adjustment must be made from land-based procedures to accommodate the limited space on the flight deck. Spoilers/speed brakes and DLC (direct lift control) cannot be checked until the wings are spread just prior to taxiing onto the cat; however, the time required to perform these checks is minimal, so little disruption is caused before the aircraft is ready for launch.

The low slung, quiet fan engines present a real hazard to flight deck personnel – carelessness cannot be tolerated around them. If a pushback is required on the cat, there are very few places on the aircraft to push; the mainmounts are the best, but they are also close to the engines.

at home in the fleet

By LT John P. Richman
VS-22 LSO

The low end speed requirement off the catapult (approximately 120 knots at normal weights) and the relatively self-sufficient characteristics of the *Viking* make it an ideal candidate for out-of-the-wind cat shots. Aboard USS SARATOGA, VS-22 normally launched 15 to 20 minutes prior to scheduled launch time, thereby providing for a smooth, even flow of the deck and a quick turnover with the S-3A going off station. In spite of the critical nature of the elevator trim setting, the aircraft takes the cat shot nicely and practically flies itself off the ship.

The good handling characteristics and high speed capabilities of the aircraft provide for good air wing integration. No longer is it necessary to have a separate set of rules for VS aircraft which are incompatible with everyone else. Whether it is a Case I departure or coming down through the VFR "stack," everyone is doing things the same way.

Because of its great fuel specs, the S-3A lands just prior to the E-2C in CVW-3. The *Viking* can go a long way, take a double or triple cycle, and still land with fuel to spare. However, there's a note of caution to all concerned: when an S-3A checks into Marshal close to bingo, treat him just

like any other low state jet. There has never been an aircraft built that cannot run out of gas.

Entering the break, one begins to see some of the characteristics of the *Viking* that can cause problems. If executing a "Sierra Hotel" break at the bow, one will probably not get the gear down until around the 90-degree position. This aircraft just does not want to slow down. With a normal approach speed of about 105 knots, the interval can be a problem unless all air wing aircraft maintain 150 knots until approaching the bow downwind. The *Viking* can make up a lot of ground on the aircraft in front since the normal abeam position is 3/4 to 1 mile, well inside most other aircraft. This tends to shorten the interval.

How many times has it been said by the steely-eyed LSO that a good start is essential to a good pass? Well, in the S-3A, that is absolutely true. Although the *Viking* is relatively easy to get aboard, it is difficult to do so with style and finesse. The aircraft was designed to fly low and slow with the minimum of power. Though this design feature is great for prosecuting submarines, it does not lend itself well to the landing pattern. To keep the aircraft on optimum angle-of-attack and on glide slope, the engines need to be near idle. In this power range, as with all turbines, power response is slow. This is where the difficulty in landing presents itself. With a start high and/or fast, the aircraft does not want to come down. If the aircraft is light or there is minimum wind over the deck, the *Viking* tends to climb or accelerate.

The extremely clean S-3A is easily overpowered on the glide slope. Power available, coupled with its efficient high lift wing, makes this bird a real bear in a number of situations on the ball. To provide acceptable minimum power and reduce pilot workloads in the groove, a DLC system was incorporated.

The DLC system provides for 12 degrees of speed brake extension/retraction upon command by depression/release of the ON TOP button on either of the control sticks. Upon DLC activation, the resultant loss of lift causes an immediate increase in sink rate. Upper spoiler extension cannot be seen by the LSO, so a blue light adjacent to the approach light is illuminated while the spoilers are extended.

Included with the DLC system is Thrust/Pitch Compensation which relieves pilot workload considerably. This portion of the DLC system counters the moment arm of thrust since the engines are low and canted, giving a vertical component to the thrust vector. DLC is a valid and primary system, and a "fair" should not be awarded because the pilot uses it. However, the pilot should not use it as a crutch or "cut button" when his copilot finally calls "steel below."

The activation of the DLC with a simultaneous decrease in attitude will set up an immediate excessive sink rate. Proper use of the DLC will allow the pilot to correct for a high ball, stop a rising ball, or correct for a fast, and not be on the idle stops with the throttles. DLC is an essential aid to the S-3A pilot, but the LSO should watch for individual tendencies to ensure that it does not become a tool for correcting poor basic airwork.

The S-3A is affected dramatically by the burble behind the ship due to the high lift, high aspect ratio wing. With a wind over the deck greater than 25 knots, the S-3A has a tendency to rise in the upwash and settle at the ramp. As a consequence, the ball must be flown all the way to touchdown. With the wind over the deck in excess of 30 knots, it is advisable to raise the basic glide slope angle to 4 degrees. At 4 degrees, the glide slope keeps the aircraft up out of the effects of much of the burble.

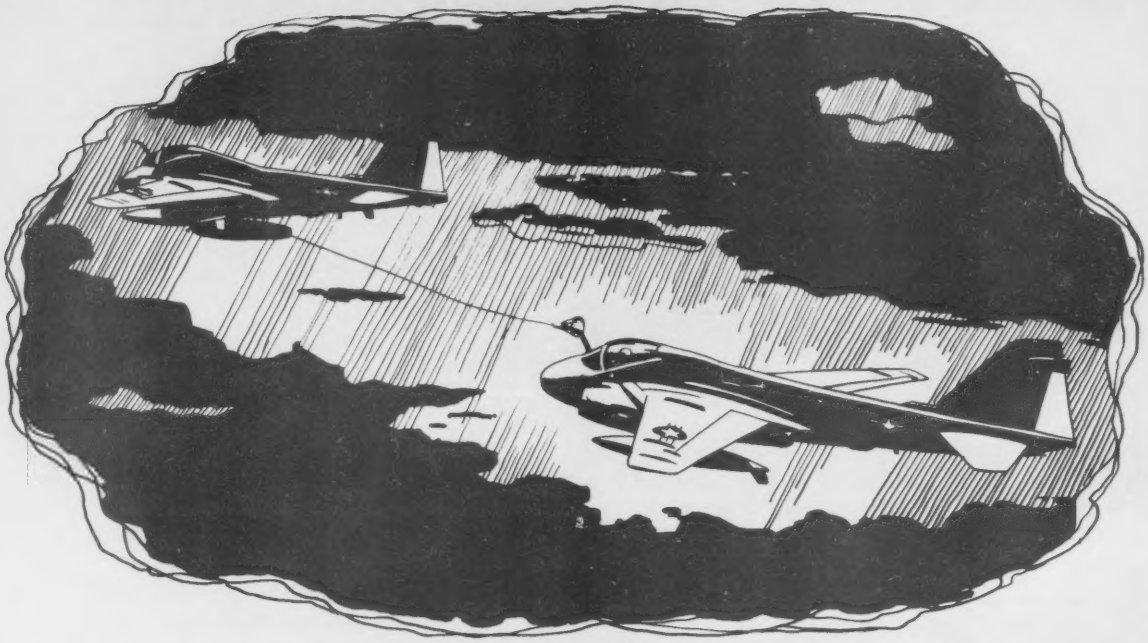
On Case III recoveries, it is essential that the pilot maintain 150 knots until 6 miles. Even at that, if the *Viking* is following an A-7, the interval will open up an additional 45 seconds in 6 miles. All air controllers should be well aware that an S-3A coming out of Marshal will appear like any other air wing aircraft. However, as soon as the *Viking* goes dirty, he will appear to enter a hover.

There is little difficulty handling the aircraft under less than optimum conditions. The aircraft comes aboard no-flap (a fairly common occurrence) with relative ease. Since its approach more closely resembles an A-7 at this speed, the effects of the burble are almost unnoticeable. Single-engine landing and bolter characteristics are also quite good because you are up much higher on the power and there is little lag in engine response. Manual night approaches became fairly common due to erratic behavior of the APC (a system on which NATOPS places considerable emphasis).

The S-3A is well suited for CV operations. The airframe/powerplant union is dependable and will be with the Navy for many years. Already there have been proposals for US-3s, ES-3s, KS-3s, and, yes, even one equipped with the *Phoenix*. So, for those CVs and air wings yet to receive the S-3A, make preparations – the *Viking* has found a home with the Fleet. ◄

A wise man can learn even from a fool. A fool can learn from no one.

Ace L.



The chips were down

USS SARATOGA (CV 60) was conducting air operations southeast of Crete in the Mediterranean on the night of 16 April 1976. The ceiling at the time was 1800 to 2000 broken, and visibility was 2 to 4 miles in rain. The wind associated with the weather conditions was causing carrier deck movement and turbulent flight conditions at low altitude.

LCDR Mike Luecke and his B/N, LT Bill Fallon of VA-75, had manned a "Sunday Puncher" KA-6D for a night tanker mission. As per standard practice, they were to launch and "hawk" the incoming recovery. As luck would have it, the KA-6D was discovered to have a downing discrepancy after start. They kept the plane turning as VA-75 maintenance personnel fought to rectify the situation, but without success. Finally they taxied forward to clear the landing area for the incoming recovery.

An A-7E configured with a "buddy store" was airborne at this time, but the D-704 package had not been flightchecked and therefore its reliability was suspect. Air operations informed LCDR Luecke and LT Fallon that another KA-6D had just been readied for flight and asked them to man it as rapidly as possible. An A-6E had gone around once already, and since there was no reasonable divert field available, the need for an airborne KA-6D was that much more urgent.

The SARA's flight deck crew, VA-75 maintenance personnel, and the flightcrew worked together to preflight, start, and taxi the second tanker in 10 minutes. With a short break in the landing sequence, the *Intruder* was launched off a waist catapult. Meanwhile, the A-6E had just gone around for the third time and was indicating 2500 pounds of fuel remaining. This would give the aircraft one more CCA approach before reaching an emergency fuel state.

Despite the low ceiling, visibility, and turbulence, LCDR Luecke and LT Fallon quickly proceeded to locate the distressed *Intruder* and rendezvous on it. The A-6E engaged the tanker drogue and began to take fuel as the low fuel warning light illuminated in the cockpit. After transferring a judicious amount of fuel, both aircraft effected a normal recovery aboard ship.

LCDR Luecke and LT Fallon demonstrated great dedication, professionalism, and airmanship during this incident. They prevented a possible barricade engagement or worse, an ejection into a serious survival situation, and the loss of a valuable combat aircraft. ◄

THE GRIMACE BOOK* OF

* With apologies to Norris and Ross McWhirter

Unintentional Bingos

ENS John P. Farthworth, VA-11, 8 January to 26 September 1974. ENS Farthworth managed to land at the designated bingo field 43 times during a single cruise, establishing a new record of .414 bingos per launch. While setting the record, ENS Farthworth never once carried a wallet. He is also known as a chain smoker who never buys cigarettes.

Innovative Barf Bags

ENS Ivan H. Green, VF-188, 31 January to 30 September 1976. ENS Green refuses to carry a regulation sick bag as a matter of pride. He is, however, frequently prone to airsickness, and has turned this difficulty into a creative hobby. ENS Green has now catalogued 97 items in an aircraft cockpit that can be used in case of emergency. His most famous, from which he is now recovering from whiplash, occurred on a recent flight when he inflated his raft.

Impromptu Public Speaking

LT Tyrone B. Smather, VA-175, 4 April 1973. LT Smather, while waiting for takeoff at the hold-short line during unusually heavy landing traffic, mistook his mike button for the ICS. His 35 minutes of uninterrupted air time broke the previous record by 4 minutes and covered a variety of subjects from the blackout in Operations to the real color of the skipper's wife's hair. His finale was a detailed account of his activities on his last cross-country that drew wild applause from tower personnel and all crews in the landing pattern.

Aerodynamic Braking

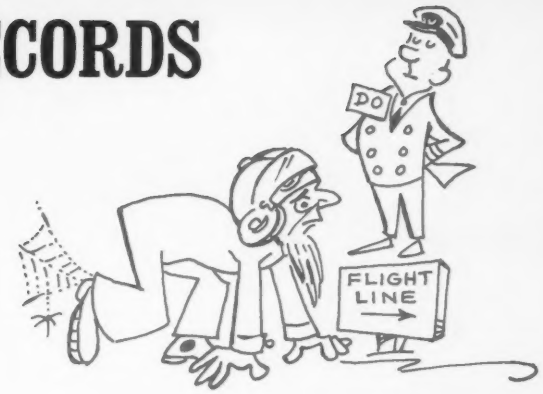
LTJG Stanislaus V. Bendix, VF-99, 14 November 1975. LTJG Bendix's night landing at NAS Atlantic illuminated the field with sparks after overrotating his aircraft for 7,382 feet of the 8,000-foot runway. The base public affairs officer received several calls by concerned citizens as to whether the base had been hit by a low-flying comet. Cromwell Aviation, which makes tail parts for LT Bendix's aircraft, has presented him with a coffee table in the shape of a bronzed empennage.

NAVAL AVIATION RECORDS

By LT Robert Wilkes
VA-128

Aeronautical Ballet

LCDR Harold R. Flitty, VF-105, 2 February 1974. LCDR Flitty, in his fighter nicknamed "The Red Shoes," departed from 39,000 feet performing a spectacular series of pirouettes. He scored 9.6 in the compulsories and 9.9 in the free style. He recovered at 800 feet, and it is rumored that the base laundry would not accept his flight suit. His ground crew has painted a "tutu" around the waist of his aircraft.

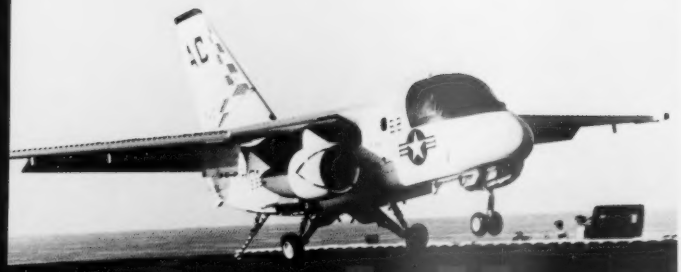


Flight Time Bagging

LT Daniel P. Gresham, VA-121, 8-9 May 1975. LT Gresham, although not on the flight schedule, suited up and stood behind the duty officer, looking over his shoulder for 37 consecutive hours, waiting for a chance to fly. LT Gresham was finally rewarded with a compass swing.

Noise Unabatement

LCDR Bob T. Rogers, VS-98, 16 June 1976. LCDR Rogers pulled the old hat trick on a four-leg cross-country. Ignoring all NOTAMS, he landed his aircraft during two change of command ceremonies, a retirement, and a Sea Scout dedication. On each occasion, he scavenged his engines for 15 minutes prior to shutdown, once staying at high power for an additional 10 minutes just to see if the low fuel light would come on.



Paddles to pilots, What now?

By LT Randy Leddy
CVW-3

AS a former RAG LSO and current air wing staff LSO, I am extremely interested in the way we carrier aviators go about our goal of carrier landing excellence.

We begin in the training command by being introduced to such things as L/D, angle-of-attack, lineup, meatball, and indexers. The fact that the nose controls airspeed while power controls sink rate is impressed upon us to the point that it becomes as common as the "meatball – lineup – angle-of-attack" that Paddles has been putting out since jets and carriers went to sea together.

By the time the nugget aviator reports to a Fleet replacement squadron, he has heard about how terrifying night carquals are (he's right) and sets his sights on this last hurdle to becoming a full-fledged Fleet aviator. The replacement squadrons reinforce the "old meatball – lineup – angle-of-attack," with increased emphasis on the individual aircraft and its characteristics at the ship. Be it fuel flow, HUD, trim setting, DLC, self-contained CCA, instrument procedures, or fuel conservation, the replacement pilot is extremely well prepared to mechanically fly the aircraft and the meatball.

You will notice that I said "mechanically" fly the meatball. It has been my philosophy that not only must you mechanically fly the meatball, but you must do it psychologically. Mental preparation is at least as important as "meatball – lineup – angle-of-attack." It is practice, mental preparation, and discipline that allows a pilot to fly

Presentation	1st Correction	2nd Correction
— — — — \ /	Power reduction	A little nosedown
— — — —	A little nosedown	Add a little power
— — — — ⟨ ⟩	Reduce power	Add a little attitude
— — — —	A little nosedown	Add a little power
— — — — / \	Add a little attitude	Add a little power
— — — —	Add a little power	Add a little attitude
— — — — \ /	Add a little power	Decrease attitude a little
— — — — \ /	Add power	Decrease attitude
— — — —	Power	Attitude
— — — —	Add a little power	Reduce a little power

the meatball instead of merely reacting to a moving meatball. With that thought in mind, how do we aggressively attack the meatball and make it perform as we want? Now you say, what do you mean "attack the meatball"? Above is a short example of what I mean. Cockpit presentation is displayed on the left, first correction in the middle, and next correction on the right.

Each carrier pass is a series of first and second corrections until trap, or at times, bolter. In nearly all cases, the first correction to center the ball is followed by another correction not in the same regime as the first. If the power is changed first, the attitude is changed next. Always seek to center the ball and reestablish on speed angle-of-attack.

Well, that's nothing new, you say. However, mental preparation and awareness of the first correction should allow you to insert the next correction in sequence, followed by the next and the next. The aggressive awareness and pursuit of the ball should provide the pilot command over the ball. If the ball is in the center, which way will it move? If you fly it aggressively, you know which way and already have a countercorrection. If you relax, you have only a 50-50 chance of guessing what it will do.

Each aircraft has its own approach characteristics and the amount of correction in any one regime; power or attitude is determined by those characteristics. Sequence may vary for your aircraft, but philosophy is the same. Individual pilot and aircraft become one during FCLP. Field carrier landing practice provides the medium to aggressively fly the meatball. Although wind, burble, and rooster tail may not be present, the ability to make a series of corrections to successful touchdown and reinforce the mental preparation required to fly the meatball will provide invaluable training on a dark, rainy night at the ship. ◄

Anymouse

What Leadership?

THE squadron flight schedule was all set one morning. Crews were briefing, preflights were being conducted, and the day was started.

Then a VIP mission was received as an add-on. Soon it escalated into two helicopters being requested. The CO decided that he'd take one helo to transport the Commanding General of the base, and the CO of another unit would take the other helo to pick up the mayor of a nearby community.

The add-ons weren't unusual. They pop up frequently. However, the way in which the "leaders" went on about their business was unusual. They didn't brief, they didn't wear any survival equipment, and I suspect there were other things they didn't do that common sense and prudence would dictate.

Let's get our priorities straight and show leadership by example. Adherence to NATOPS and safety awareness isn't just for the low pay grades; it's for O-6s and above, too.

Name Withheld

Momentary Goof

WE had returned from a routine night training flight, and I was the lucky one assigned to rustlick the engines of the helicopter. It's a routine job, but I was preoccupied with a personal problem, felt tired, and was complacent.

The rotor brake wasn't on, and

when I started an engine, the rotors began to turn. The blades only moved about 5-8 feet before I quickly applied the rotor brake. Fortunately, no one was hurt!

Maybe, like gear-up landings, the same thing applies to unintentional rotor movement; there are those who have and those who will. I assumed the pilot had left the rotor brake on and didn't cover my six by using the checklist. This kind of error can kill, just like some kinds of pilot error.

I thank my guardian angel for covering my six and the crew's sixes. I hope others won't need my kind of luck.

Preoccupied Complacentmouse

Flyoff or Bust

A MULTIPILOTED, multiengine carrier aircraft was preparing to launch on the air wing flyoff from the carrier to Homebase. During start there was no hydraulic pressure on the No. 2 engine (a downing gripe). The pilot, also the squadron maintenance officer, called in troubleshooters. They suspected a bad gage and swapped the left and right indicators. On second start there was still no hydraulic indication. The flight deck CPO said the aircraft was down but the pilot overruled him and took off for the beach. He made it OK, and after the aircraft had been shut down, inspectors found the No. 2 boost pump sheared. This was in an aircraft that had no mechanical backup for the hydraulic controls. It sure scared *me,* and I'm a . . .

Fearlessmouse

Frustrated Blue Angel

AFTER an 8-hour, overwater transit to NAS Sunshine, the prospects of landing seemed refreshing to the flightcrew and numerous passengers onboard the P-3. The pilot in command was the squadron commanding officer.

Obviously anticipating a welcoming party, the skipper was intent upon a magnificent display of airmanship. Unfortunately, the aircraft he was flying wasn't a fighter, but a large aircraft formerly used as a commercial

The purpose of Anymouse (anonymous) Reports is to help prevent or overcome dangerous situations. They are submitted by Naval and Marine Corps aviation personnel who have had hazardous or unsafe aviation experiences. These reports need not be signed. Self-mailing forms for writing Anymouse Reports are available in readyrooms and line shacks. All reports are considered for appropriate action.

REPORT AN INCIDENT
PREVENT AN ACCIDENT

airliner. He executed a snappy break (55-60 degrees) and extended the gear prematurely (270 knots). This purportedly professional pilot managed to overstress the undercarriage and terrify many of the passengers who were infrequent air travelers.

The severity of the maneuver was such that portions of the well secured cargo load were dislodged and tossed about indiscriminately. All this time the PPC attempted to ride roughshod on his copilot's communications. No one needed to be told he had his hands full just trying to fly the aircraft.

This senior aviator has made a point of demanding his pilots to fly "by the book." After this performance one questions whether he was referring to NATOPS or some acrobatic manual. Besides jeopardizing everyone's safety, this was a poor example of pilot procedures. Leadership must be displayed by the skipper in the air as well as behind the mahogany desk.

Shookmouse

Check the Disc

THE ANSUL 150-C wheeled dry chemical fire extinguishers have a visual hose inspection disc between the cylinder of dry agent and the hose adapter. This thin disc is a visual indicator to determine whether the extinguisher has been fired off and also serves to prevent contaminants from mixing with the PKP dry agent. In operation it should rupture when the equipment is activated. New extinguishers were obtained for our squadron, but when the base fire department made a periodic inspection, it was found that these discs were too thick to rupture if personnel had tried to use the fire extinguishers. If they had been activated for an actual fire, it appears the equipment wouldn't have functioned at all. It is suggested all ANSUL 150-C fire extinguishers be inspected for the presence of the correct visual inspection disc.

Firemouse

A Near "Gotcha"

A P-3 was being preflighted by an ASW crew while some maintenance was still being performed. Specifically, an AE2 was sent out by the shop to fix a burnt out lower rotating beacon that the plane captain had reported.

The electrician notified the plane captain he'd be in the doppler well repairing the beacon. At the same time, two aircrew ordnancemen were preparing to cycle the sono package to check out a suspected sticking 9A valve. When the sono package was actuated, the external sono package door raised and began to travel aft normally.

The electrician was alerted by the sound of the lowering package and turned to see what was happening. The aft traveling sono package caught the heel of his boot and jammed the boot toe into a section of aircraft ribbing. Luckily, the electrician was wearing a LOX boot (a slip-on boot vice a lace-up boot) and pulled his foot free. The door continued bending the toe of the boot double and ripping the heel off the boot.

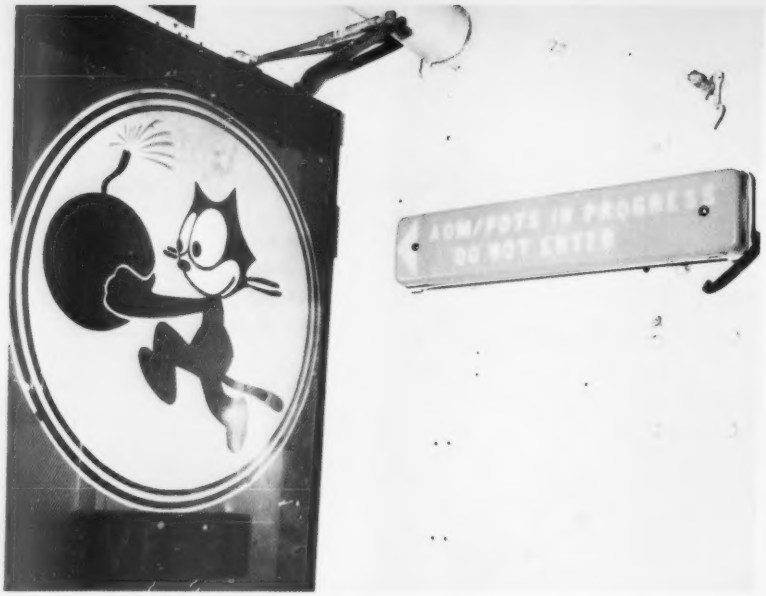
This incident was easily preventable. A little communication between the ordnancemen and the plane captain was the key. A good heads-up, alert attitude on everyone's part could have prevented this near-miss.

Would it be possible to provide all aircraft maintenance personnel with slip-on safety boots? The cost difference is less than a dollar per pair.

Concernedmouse

The new term is PDTS*

By VF-31



IF you have been associated with naval aviation for any reasonable length of time, you probably have noticed a fact of life not shared by our civilian friends. Someone can design a patch which commemorates a special event or provides for specific personal recognition. These patches cover an incredibly wide range of subjects and appear on jackets of all modes of dress. For example, recently observed was a unique patch worn by a young officer which stated "BICENTURIAN AOM VICTIM." Yes, there were also other patches such as "EAST MED YACHT CLUB" and even "MISSISSIPPI RIVER RATS." But why the "AOM VICTIM"? Obviously, someone was conducting the AOM just to have an all-officers meeting and was not necessarily directing the gathering toward a productive end.

The dictionary defines "meeting" as "an act or process of coming together." It does not allude to any degree of productive goals or end results. We have all had numerous experiences where, upon completion of the AOM, we wondered not only why the meeting was called but also what was actually accomplished.

Here lies the anomaly. Most commands use the AOM not only for putting out pertinent administrative and operational information but also to conduct professional training.

This is not to say that professional training is unimportant. Professional development must be a continuing process in all areas of responsibility. Equipment/material management, subordinate management and development, warfare specialty, and equal opportunity programs are but a few areas we must continue to address.

The problem, then, appears to be how we get across the necessary administrative operational and training information without producing AOM marathons that are self-defeating. We don't purport to have redesigned the wheel or to have built a better mousetrap, but we have modernized our training program and instituted a new idea we call the PDTS – the Professional Development Training Seminars.

You are absolutely correct. It is a jazzed up form of the AOM; however, it is strictly for a single subject, and comments on matters other than the topic at hand are not appropriate. A typical PDTS subject might be the F-4 electrical system or equal opportunity in the Navy.

PDTS attendance may or may not be mandatory for all personnel. An open interest in participation is more conducive to a successful seminar than is a mandatory victimization. A topic covering a single element of the aircraft weapons system may not be so interesting to a ground officer, but you will probably get his attention with a subject discussing officer selection board processes.

Try it – you might just like it. Leave the AOM for its purpose, and let the department heads, XO, and the CO do their thing. But keep the PDTS sacred. Consider beginning the seminars with a topic which deals with lecture preparation and presentation techniques. Begin on the right foot. Develop as you progress into your training program. Each seminar becomes a professional challenge in itself, and everyone gains from different presentation techniques (and mistakes).

The PDTS may be nothing but an old book with a new cover. But there's nothing wrong with that. In fact, it may be all you need to jazz up your training program. Think back 20 years or so, if you can. The hamburger was just a hamburger, and nobody had ever heard of *McDonald's.* ◄

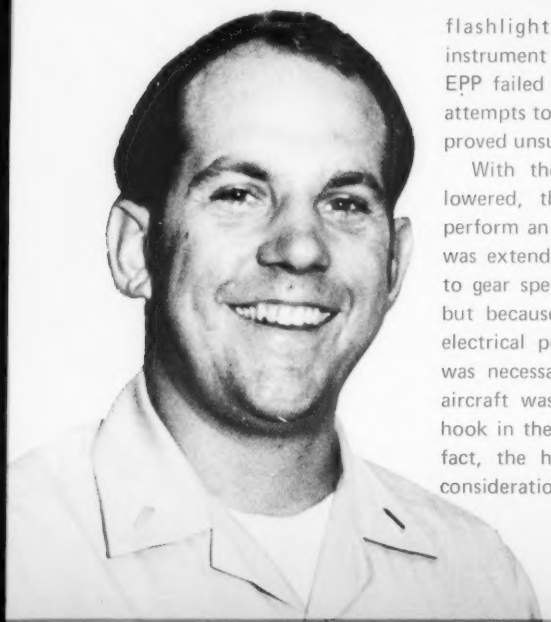
* Professional Development Training Seminars.

Bravo Zulu

LTJG Larry "Bud" King
VA-215

LTJG King launched from USS ROOSEVELT in an A-7B for a night practice bombing flight. A routine bombing mission was completed with a normal return to CV Marshal. Just prior to commencing his approach, LTJG King's aircraft experienced a main generator failure. The EPP (emergency power package) was deployed and the ship was informed of the difficulty. Instructions were given for the duty tanker to join with LTJG King and escort him to NAS Cecil Field, the closest suitable divert. Local weather at NAS Cecil was VFR with rain and thunderstorms in the vicinity.

At approximately 10 miles from the divert field, the EPP failed momentarily, then returned on the line. At this point the lead aircraft was informed of the additional problem. An emergency was declared and a straight-in visual approach requested. Anticipating complete electrical failure, LTJG King quickly trained his flashlight on the partially lit instrument panel. As expected, the EPP failed only seconds later, and all attempts to regain any electrical power proved unsuccessful.



With the gear and flaps not yet lowered, the decision was made to perform an arrested landing. The hook was extended and the aircraft slowed to gear speed. The gear was lowered, but because of the complete loss of electrical power, a no-flaps approach was necessary. Upon touchdown the aircraft was slowly flared to set the hook in the arresting gear. Despite this fact, the hook skipped. Taking into consideration the increased approach speed and consequently the greatly increased distance necessary to stop the aircraft, LTJG King elected to go around.

Again, using his flashlight for instrument lighting with only airspeed, altitude, and VSI available, the pilot commenced a second no-flaps approach. This time the hook engaged the shortfield arresting gear at about 155 knots.

LTJG King exhibited exceptional airmanship and a clear understanding of his aircraft's limitations in this emergency situation, thereby saving a valuable aircraft.

Well done!

THE LAUNCH

By LCDR Bob Jones
VA-37

CHUCK Harris stepped out into the night. It was black and overcast. The weatherguessers were forecasting from the seventh deck again, he thought, as he made his way around a loose crossdeck pendant and over a JP-5 hose that someone had left charged and lying in the catwalk. He made a mental note to talk to the fuels officer about that when he got back.

The respot was almost in; a couple more Fox-4s and the tanker for the early go, and it would be complete. He made his way down the flight deck, across the wires to his aircraft. Chuck checked his kneeboard – 310 or 301 – he couldn't remember. "Ya, OK, 310," he said to himself. He found it parked aft on the port side, the plane captain

busily unbuttoning panels as he arrived.

He climbed to the cockpit and stowed his gear – navbag, kneeboard, hardhat, oxygen mask – all in familiar places. Chuck checked the switches from memory, turned on the fuel master, and climbed down. For the next 5 minutes he looked the airplane over. Ordnance – six Mk-82 bombs and a SUU-44 flare pod all looked good. The gunner trains his men well, he thought. Fuel oil, hydraulics all good, and the rest of it's all in one piece. He noticed the AE in the cockpit starting his inertial alignment. He looked at his watch – 25 minutes to launch. Time to stretch a bit before strapping in for an hour and 40 minutes of flight.

Chuck walked to the rounddown and watched the trash being thrown over the port quarter slowly drift into the darkness. His eyes were night-adapted, and he could see a faint horizon under the 2000-foot overcast. Somewhere above there was a moon. The plane guard destroyer was on station 3 miles ahead of the ship and slightly to port. What a life, he thought, following a carrier around all day long. He looked into the darkness behind the ship and thought of Kathleen – some fine lady! This is the kind of night to be with her. Warm, with a little breeze, on the beach with the surf rolling in – not here launching off into the black night with a load of bombs, only to dump them onto some stupid, deserted island called "Petit Terr." Chuck's next few minutes were spent alone with Kathleen on the beach.

The air boss started his drawl over the 5MC, and Chuck automatically made his way back to his aircraft. It was 20 minutes to launch. He climbed in, and the plane captain, a young man named Winslow, strapped him in. He signed the "A" sheet and got ready to start.

The noise was deafening. Chuck reached for his helmet, put it on, and plugged in his radio cord. The huffer was ready; fuel master on, throttle off. Winslow gave him a two-finger turn. Chuck nodded his head, and the huffer hose jumped as air filled it to turn the starter. He watched the gages; fuel pressure and caution lights flickered. At 15 percent RPM and climbing, he pushed the throttle from OFF to IDLE. The engine caught, turbine outlet temperature began to rise, and as he watched, Chuck started turning on other pieces of equipment in the cockpit. It was a good start. At 43 percent the generator came on and held, oil press was OK, all temps and pressures normal. He gave the unplug signal and the huffer died.

As he did the plane captain checks, Departure Control droned on about the weather, divert field, and type departure – always a Case III at night. Why say it when everybody knows it, he thought. His mind stayed busy for the next few minutes – well, not his mind – his body. The moves were automatic. Follow the plane captain signals, check this, check that – numbers, numbers, numbers. They sure know how to take the fun out of it. He smiled and saluted Winslow, shifted his eyes to the yellow shirt, and waited.

Two minutes to launch, chains were broken down, and Chuck put his feet firmly onto the brakes. "Ship turning starboard. Watch the *Phantoms* spinning on the waist." The air boss could just barely be heard above the noise as the ship heeled to port and turned into the wind. He checked his gyros in the turn – all looked good. The yellow shirt signaled to pull chocks; Chuck nodded. Out they came, and he could see the blue shirts running from behind him towards the island.

Yellow wands cutting swaths of light directed him to the No. 3 catapult. Aircraft were launching, and steam obliterated the cat spotter from view as he was passed to him. Chuck waited until he could see the wands and then started forward like a ballet dancer getting ready to leap, getting the rhythm down pat, a little left, then right, wings spread and locked, launch bar down, nosegear steering disengaged, into the buffer and the reassuring clunk as it bottomed out. The wands suddenly parted and the catapult took tension. Up on the power, controls checked, all looked good. He retracted the launch bar and looked at the launching officer. There he was, with his green wand moving in a slow back and forth motion. Chuck was ready, everything checked out, and he turned on the external lights.

Bill Sammuals checked the deck one last time, raised the green wand over his head, leaned over and touched the deck. Chuck trusted him – a good man. He had eaten dinner in the dirty shirt mess with him 2 hours before. Four seconds later, the catapult fired and sent Chuck into the night. His vision tunneled slightly as the plane sped down the cat track, ending with the sensation that the aircraft had stopped as the catapult reached the end of its stroke. Chuck rotated to optimum angle-of-attack and thought of an unwritten rule of carrier aviation: "God flies it for the first 3 seconds." He scanned the instruments; all looked good. He climbed to 500 feet and raised the gear; at 800 feet the flaps came up and he accelerated. All was normal. He could see a horizon ahead and everything was running fine.

He flew into the water 5 miles ahead of the ship while holding Kathleen in his arms and watching the horizon. Nobody ever knew why but Chuck.

Epilogue. Complacency in the cockpit: the insidious effects of letting the mind wander to more pleasant surroundings or interests instead of the tasks at hand. There is a little bit of "Chuck" in us all. At times we find ourselves letting past experience and training take over our actions as we slip into the gray area between vigilance and disaster. The price of complacency? It is often the undetermined loss of life and aircraft. ◄

Engine hot, reaction cool

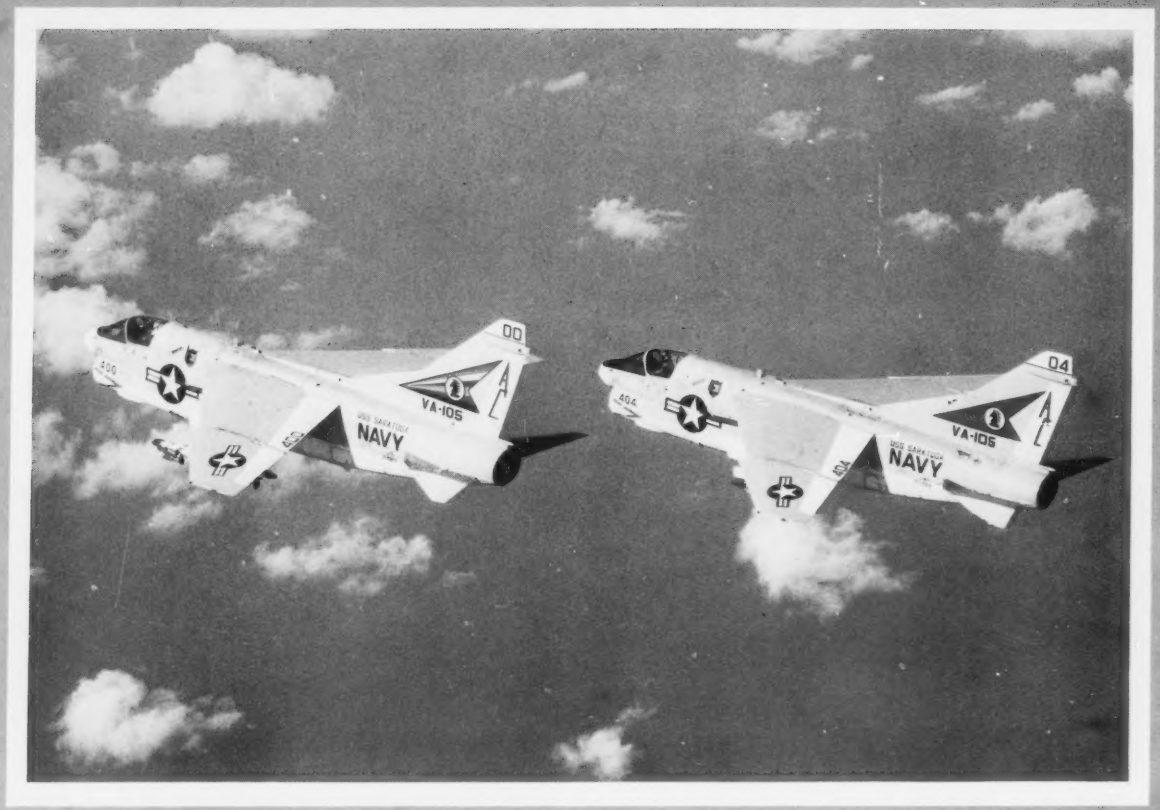
By LCDR P. L. Leum
VA-105

DURING recent flight operations aboard USS SARATOGA, two CVW-3 A-7E aircraft were proceeding inbound to the carrier for a standard Case I recovery after the completion of a routine mission. With 20 minutes remaining until the expected "Charlie" time, and with both aircraft well above max trap weight, the flight leader decided to conclude the flight with some tactics training.

Having received a vector to a clear area approximately 20 nm from the carrier, the lead was passed to the No. 2 aircraft, and the flight leader assumed a normal 500-1000-foot tail chase position. Both pilots set their throttles, and maneuvering commenced. After approximately 8 minutes of maneuvering at a constant power setting, the flight leader, now in the chase position, experienced a MASTER CAUTION light caused by an ENGINE HOT light on the caution panel. The throttle was immediately retarded to IDLE, and the TOT (turbine outlet temperature) was noted to be 550 degrees, well below the 620-degree temperature required to activate the ENGINE HOT light. Actual maximum temperature could not be determined, as the power had already been reduced to IDLE, and the temperature was declining rapidly.

Maneuvering immediately ceased, and both aircraft turned towards the carrier. Power was set at 80 percent, while a request to land as soon as possible was transmitted to the tower in accordance with A-7E NATOPS procedures. Enroute, all engine instruments were continuously monitored with no further indication of any malfunction. However, about 3 minutes after illumination of the ENGINE HOT light, both the cabin pressurization and the air-conditioning system were lost.

The flight arrived overhead the carrier at 5000 feet and continued its descent to enter the break. All engine indications remained normal with TOT and engine response as expected for the power settings being used. (A straight-in was not requested since the pattern was open and no appreciable savings in time could be gained.) The leader broke, and as he approached the 180, the aircraft experienced a failure of the PC-3 hydraulic system with the pressure dropping to zero. Due to the A-7E's three independent hydraulic systems, no appreciable control problems were noted; however, the pilot elected to fly a slightly wider and deeper pattern as a precaution against possible control problems in the event that an additional



hydraulic system failed.

An uneventful approach and arrestment was made, and the aircraft was taxied forward to the bow. After the aircraft was shut down, the aft fuselage skin was discovered to be extremely hot to the touch, and the paint on the upper fuselage area directly aft of the starboard wing was blistered and peeling. Further investigation revealed a ruptured bleed air duct on the starboard side of the engine. This resulted in a failure of the air-conditioning and pressurization system. The hot bleed air being ducted into the engine compartment caused the PC-3 hydraulic reservoir to explode, covering the engine with hydraulic fluid and creating a definite possibility of a disastrous inflight fire. From this and additional airframe damage, it is reasonable to assume that any delay in responding to the initial indications could have resulted in additional system failures and possible loss of a valuable aircraft.

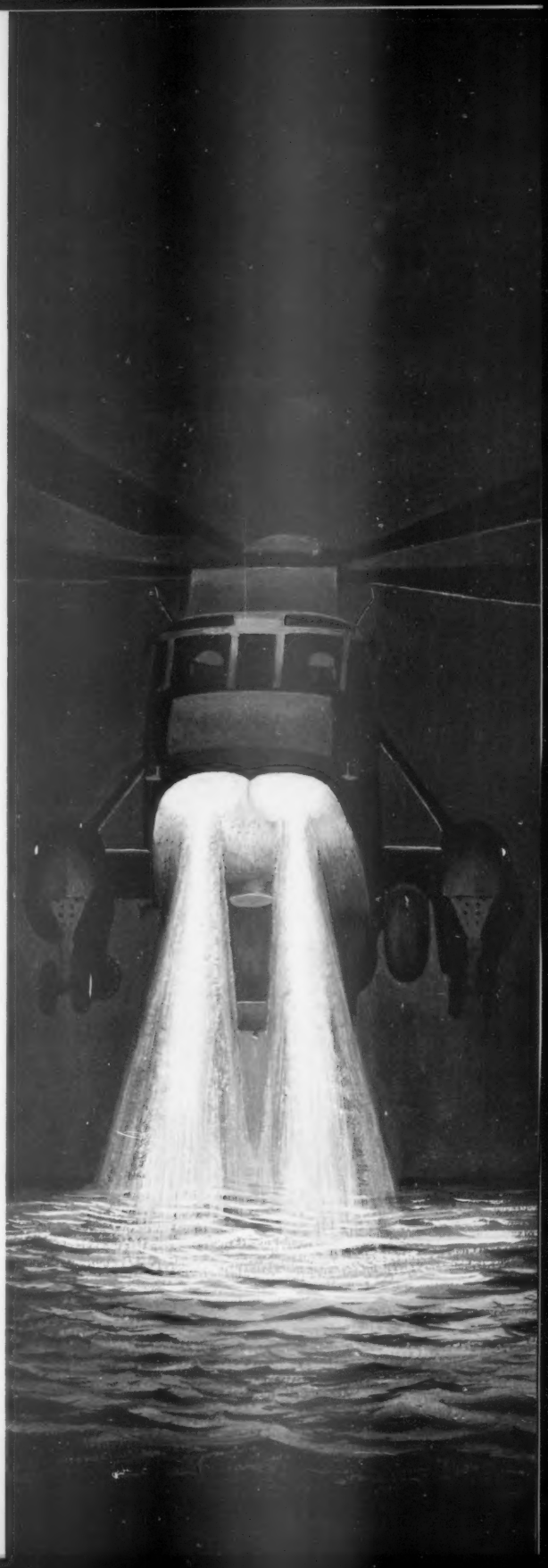
So, sounds like a rather routine handling of an emergency situation by a professional aviator, right? EXACTLY RIGHT! How many of us have experienced an indication of some malfunction, and after initial inspection decided to write it off as a gage failure or a wiring problem? How many times have you bad-mouthed maintenance for not being able to fix what YOU considered to be a repeat gripe on some warning or caution system? In the majority of these cases, the individuals concerned have been right or have at least been lucky enough to complete the flight without incident. But what about the others?

The pilot involved in this episode had experienced several other instances of ENGINE HOT lights during his 500 hours in the A-7. In all cases, they had been either system malfunctions or were not particularly serious and had not resulted in any engine or aircraft damage. However, this pilot did not allow himself to be lulled into complacency. Instead, he took the appropriate actions as outlined by the NATOPS Manual.

His timely response to the existing problem resulted in the aircraft being recovered aboard within 10 minutes of the initial indications. This most likely prevented the loss of an aircraft. As the commanding officer stated during a review of this incident, "It should always be stressed to all flightcrews that second-guessing an aircraft's ailments and pressing on can only lead to a compromise of safety procedures and the risk of greater loss."

Black nights and glassy seas

By LCDR Bill Roop
HS-7



THE introduction of the SH-3H into the Fleet and subsequent CV operations has greatly expanded helicopter versatility and capability. Operating from a carrier, we can provide in-close ASW protection, protection against antiship missiles, logistic support, and a SAR capability second to none in the Navy. Considering crew proficiency and equipment operation, I was confident the H-3 could carry out any of these missions regardless of weather – until recently.

While conducting operations in the Med during our past deployment, our squadron discovered that a major part of our mission is threatened under certain meteorological conditions – namely, the automatic approach and hover capability required for night/IFR sonar operations and SAR. Despite the additional ASW sensors incorporated in the SH-3H, dipping sonar remains our "claim to fame." It is unique to the H-3, highly mobile, and the only sensor of its kind not carried in other ASW air platforms. It continues to prove its value.

The night rescue capability has likewise proved its value over the past 14 years, but its derogation is perhaps more significant in this case, considering the CV operations and the increased ASW capabilities of the SH-3H. We do not have to be able to dip our sonar at night to be an ASW mission capable aircraft, but we should be able to conduct an automatic hover at night to effect the rescue of a downed pilot.

Our squadron experienced on several occasions that the

doppler D-mode hover indicator presented the pilot with erroneous and misleading information during the automatic approach and hover. These indications varied from centered needles (indicating a stable hover), when in fact the aircraft was drifting forward at 15 KIAS, to indications of 10 kts aft speed when the aircraft was actually drifting forward.

In all cases, there was no off flag in D-mode, and the memory light was out. In cases where the automatic approach was attempted, good doppler return was indicated prior to and throughout the approach. Only when the final transition to the hover commenced (the most demanding flight regime) did the D-mode present inaccurate information. In cases where good doppler return was not indicated prior to commencing an approach, LAND/ALT was selected and an alternate approach was attempted. When the final transition to the hover (10 KIAS) was commenced, the off flag in D-mode would retract and the memory light would go out. However, D-mode needles would sometimes indicate an erroneous drift or would indicate a stable hover when the aircraft was actually drifting.

Meteorological conditions at the times of these incidents were always the same – light winds, glassy seas (sea states less than 1), and no horizon! In all cases, an automatic hover was not possible! Pilots rely on D-mode in the approach and hover, and without it – or worse yet – with erroneous indications from it, a night/IFR hover cannot be established or maintained. The result of attempting to hover under these conditions is extremely hazardous and could result in the loss of the aircraft and possibly the crew.

Since previous incidents occurred at night when there was no horizon and inflight troubleshooting was impractical, this squadron attempted to determine the cause of this phenomenon. All conditions were duplicated on several occasions, using different aircraft. The only exception being that flights were flown during daylight hours. The results were identical. An automatic hover could not be established or maintained without the use of outside visual references.

An embarked Sikorsky techrep researched the problem, using available technical publications and ground test equipment. The problem was identified as the APN 182 doppler, and his findings and recommendations were published in HS-7 message 072014Z Feb 76. HS-2 Safety UR 0001 of 282111Z Jan 76 further identified the problem and established the fact that it is an H-3 Navywide problem. Pilots have been briefed on the possibility of such occurrences and what conditions may cause it to happen.

Technical explanations and recommendations have been forwarded to appropriate engineering facilities and distributed to all H-3 users. Until engineering can improve the doppler operation, we must live with the fact that under certain weather conditions, a routine procedure becomes quite difficult.

The real problem now is, what does one do in the interim? Does squadron SOP adequately cover the subject? Do commanding officers, commanders, and their staffs know and understand the limitation and realize its effect on mission capability? What options are open to the HAC suddenly confronted with an actual night SAR under these conditions?

I find a reluctance on the part of most H-3 pilots to accept their inability to conduct automatic hover operations under all conditions. This is partly due to the low probability of the conditions and events coming together which create the situations. They happen so rarely that it equates to worrying about a simultaneous dual-engine failure. During our 6-month deployment, there have been perhaps only five nights where there was no horizon, and the sea state was such that an automatic approach to a hover was impossible.

Although ASW and ASMD (antiship missile defense) missions were successfully completed using tactics and sensors not requiring a hover, the helicopter would have been forced to assume a secondary role had a SAR situation developed. This certainly degrades the SAR assets available to the carrier commanding officer for night flight operations. We must be aware when these conditions exist so alternatives can be provided.

What is a HAC to do if, through a combination of events, he finds himself designated primary rescue vehicle in an actual night SAR when he cannot hover automatically? Old H-2 pilots say, "We used to do it all the time," but they fail to remember all the ones that flew into the water while attempting manual transitions and hovers at night. Some pilots say they would call for parachute flares to be dropped for illumination so that a VFR hover could be effected. This is certainly an alternative but would require prior planning and coordination among embarked squadrons for proper execution. Others say that the use of smokes and flood/hover lights would provide adequate external reference for a hover, while a few say they would land in the water to rescue the survivor.

Whatever the decision is, the procedure should be standardized, be briefed beforehand, and have adequate training established to develop and maintain the necessary skills required to safely execute it. We all must be made aware of the H-3's capabilities and limitations and the conditions and events that could cause them to become a factor in mission completion. Alternatives should be established and disseminated in the form of squadron SOP and air wing TACNOTES. But most important, each pilot and crew should know what action they will take when "it happens to them." ◄

Letters

Risk

CV RISING SUN – A lineman was turning the rotorhead of our SH-3G *Sea King* during a daily inspection to facilitate a grease job. He noted a strange, loud, grinding noise emanating from the main gearbox; it sounded like a 37-year-old washing machine filled with marbles! So he immediately stopped what he was doing and went to get a plane captain and the mech QAR.

Oil samples were taken; then the engines were started and the rotors engaged. After shutdown, another oil sample was taken. Both oil samples were good, but the ghastly grinder was even louder during turnup.

Since the main gearbox still had 243 hours left until high time, and careful perusal of the manuals revealed no mandatory removal, the decision was made, against the advice of QA, to maintain the helo in an up status and fly it.

We were enjoying a very relaxed tempo of flight operations, and I feel that the saving of four lives, not to mention a valuable Navy aircraft, far outweighs "making the outfit look good" by having a high OpReady rate. The chances are it will last until it has to be changed for high time, but I say why take the risk, which can't even be classified a calculated risk?

Name Withheld

C-9 Exterior Communications

MCAS Cherry Point, NC – Due to the size of the C-9B, communications between the aircraft director, wingwalkers, vehicle driver, and brake rider leave much to be desired. The hand signals and conventional whistles cause confusion, often are not seen or heard, and misunderstanding reigns. Our activity, SOES, also happens to be located in one of the noisiest areas on the station. It seems a logical solution to the problem would be to provide walkie-talkies for those involved in large aircraft ground movements. The walkie-talkies would ensure much better communications with resulting safer movement of aircraft.

SSgt C. J. Hutchinson
Station Operations Engineering Squadron

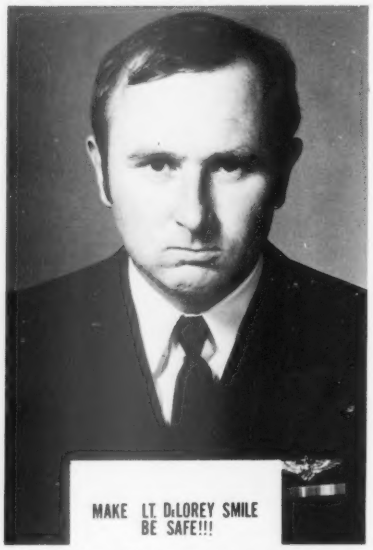
Make the Safety Officer Smile

NAS North Island – When I took over the HS-8 safety officer billet, the first obstacle I wanted to overcome was getting "the word" to the men that I was the new safety officer. The usual methods were employed, such as a POD note, an announcement at quarters, and changing the old picture board.

I wanted to keep my name, face, and billet before the men, so I adapted an idea from an old Safety Center NATOPS poster about "Making the Safety Officer Smile" and modified it to include my face, name, and job.

I had several 4- by 8-inch prints made so I could put one on the safety bulletin board in each shop. The results have been very good. Even when a man checks in, he very often knows my name and job before I meet him because he has seen my mini-posters around the squadron.

If any individual plans to use this technique, I should warn him that he will most likely have a small percentage of the pictures subjected to "good-natured"



modification. This at least shows there is someone looking at the posters!

LT M. W. DeLorey
HS-8 Safety Officer

Sweep It

Camp Pendleton, CA – One day last August, a screwdriver belonging to one of our squadrons was spotted in the middle of the duty runway near the 2000-foot marker. Its presence would indicate that it was dropped by an aircraft on the duty or from one which was airborne.

Numerous fixed-wing aircraft use the field, and an object the size and weight of this tool could pose a definite FOD threat.

APPROACH welcomes letters from its readers. All letters should be signed though names will be withheld on request. Address: APPROACH Editor, Naval Safety Center, NAS Norfolk, VA 23511. Views expressed are those of the writers and do not imply endorsement by the Naval Safety Center.

It's suggested that a FOD walkdown of some sort be executed daily on the duty runway as well as the taxiways to and from the duty.

1st Lt Earl W. Timpe
MCALF

• Even for Marines, a FOD walkdown of 12,000-foot runways would be an ambitious undertaking. As you point out, however, a FOD problem often does exist on runways and taxiways. Most air stations combat the problem through the use of sweeper machines and visual inspections from other vehicles.

We Apologize

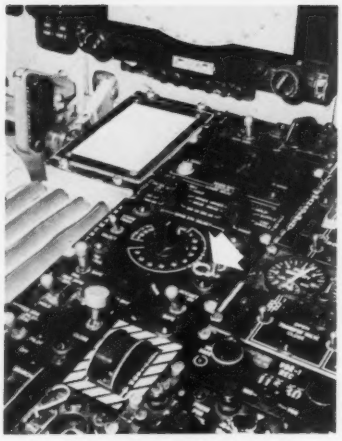
NAS Norfolk – In the August issue of APPROACH, we discussed an aircraft accident in an article titled "One of the Finest Pilots in the Squadron." The purpose of this and other accident-related articles is solely to enhance accident prevention and hazard awareness.

It is editorial policy to disguise various circumstances of accidents so that those involved will not be identified. We delete identifiable markings from photographs, and we do not use names. We use locations such as USS BOAT and NAS East Coast. When illustrations are not used and aircraft type is not significant, we do not identify aircraft type. Frequently, articles are a composite drawn from a series of accidents or mishaps to point out recurrent problems or mistakes. Unfortunately, in the article "One of the Finest Pilots in the Squadron," because of various circumstances, readers may have been encouraged to speculate as to a particular accident or the identity of certain crewmembers.

The APPROACH staff regrets that its portrayal may have encouraged erroneous speculation or identification and apologizes for any inconvenience or embarrassment that may have been caused by the publishing of this article.

Cockpit FOD

NATC Patuxent River, MD – I just read the SEP '76 issue of APPROACH and would like to comment on something I saw on the inside back cover. There's a picture of a performance card covered by *Plexiglas,* a new piece of gear. The author patted his squadron on the back for reducing cockpit FOD by installing the card instead of using a scrap of paper which formerly interfered with the flightcrew. Yet, if you look at the photograph carefully, you'll see FOD



plainly visible on the ordnance control panel. This type of FOD can, and has in the past, become lodged in the engine power levers.

AO2 Michael W. Dyer

• At first glance we thought it was just a photo glitch, but after magnification and close scrutiny, you are probably right. Aircrews must be careful at all times to eliminate any kind of FOD in the cockpit or wherever. As you pointed out, the back cover says it all – FOD Kills!

Personal Survival Radios

Fleet Post Office – What is the requirement for personal survival radios for aircrewmembers? Does it apply to SAR helicopter crews? Where would I find a reference for them?

No signature

• You raise a good question. If you had signed your name, we could have responded to your question more rapidly. The only other course available is to answer you in APPROACH. Yes, SAR helicopter crewmen are authorized personal survival radios. The *Allowance List* is contained in QH-2. Further, NAVAIR 13-1-6.7, Chapter 6, describes wearing and configuration information.

Busted Habit Pattern

FPO, New York – After a Z-services flight, our helo crew returned for fuel. Shortly thereafter, the H-46 was turning up, ready to go again. We were running down the checklist and reached MA-1 compass set. Most HACs normally set the compass while on deck, but during a recent short cruise, the copilot remarked that he had set the compass after takeoff because of sync difficulties. I had never experienced any slaving or synchronizing problems on Med cruises by setting the compass on deck, but I decided to go along with the idea.

After takeoff, we had a good TACAN lock. With the copilot flying, we followed the No. 2 needle/RMI heading of 270 degrees. Four or 5 minutes later, while tuning the be-bop radio and switching to the COMP position, the No. 1 needle pointed behind us. Huh? A scan of the wet magnetic compass indicated we were Azores bound. However, a quick 180 and a reset of the MA-1 made us OK. The ship didn't have air radar but gave us a good heading.

Fortunately, it was a good VFR day, and we didn't need anyone to bust our heads to realize that the habit pattern break was the reason. Whew! As a fixed-gear helicopter pilot, I could never understand gear-up landings caused by the *habit-pattern break.* Now I do!

LT G. H. Brown
HC-6

Agenda Item

NAS ALAMEDA, CA – The following agenda item for the Marine Aviation Safety Conference is submitted for comment by readers of APPROACH:

"A significant portion of a unit's safety program is an accurate and complete mishap/incident investigation. Learning from one's own and others' mistakes should be a major portion of a squadron's accident prevention program. Open and complete disclosure of incidents, especially those which can be attributed to human error (pilot, supervisory, or maintenance) are occasionally suppressed. Mishaps/incidents and safety URs when readdressed for information identify the originating unit and names of pilots and other personnel which have little or no bearing on the cause of the incident.

"Recommend mishap reports required by OPNAVINST 3750.6K be submitted directly to the Naval Safety Center with restricted distribution to unit and aircraft custody chain of command only. The Naval Safety Center could then readdress facts pertaining to the mishap and lessons learned without unit identification and names to all appropriate units whose safety program could benefit from such information. For example, A-4 incidents could be readdressed to all A-4 squadrons."

Roger H. Carlin
MARTD

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NAVAIR 00-75-510

approach

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CREDITS/Our cover painting this month depicts TA-4J *Skyhawk* trainers returning to NAS Kingsville, Texas after another training mission. The painting is by R. G. Smith, courtesy of McDonnell-Douglas Corporation.

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CNO "Readiness Through Safety" Award
Naval Air Reserve Forces

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VF-101 **
VA-72
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RVAH-1
VP-30
VS-22
VAW-125
HS-15
VR-24
VAQ-33
HSL-32

CG MARTC/4TH MAW

VMFA-112
HMM-764

CGFMFPAC

HML-267
HML-367
VMFAT-101
VMFA-212
HMH-363

COMNAVAIRPAC

VF-2
VA-97 **
VA-196
VAQ-133 ***
VS-21 **
VAW-112
VP-22
HSL-35
HC-3
VQ-1 **
VA-128
VF-121 **

CGFMFLANT

VMFA-451
VMGR-252
HML-167
HMM-261

NAVAIRESFOR

VF-301
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VP-92
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VC-13

** Second consecutive year
*** Third consecutive year

Admiral James H. Flatley Memorial Awards

CV Attack	USS AMERICA/CVW 6
Midway Class	USS MIDWAY/CVW 5
LPH	USS IWO JIMA/HMM-264

Plan for winter operations now. Review NATOPS and past experience. Know your own weather limitations. Evaluate landing conditions and have a Merry Christmas.